WHAT IS CLAIMED IS:

1. A receiver circuit comprising:

an IQ signal source configured to provide a digital signal comprising in-phase (I) and quadrature (Q) components; and

an image correction unit coupled to said IQ signal source and configured to combine said digital signal with a complex image correction factor.

2. The receiver circuit as recited in claim 1, wherein said image correction unit is configured to combine said digital signal with said complex image correction factor using a cross-accumulation operation.

3. The receiver circuit as recited in claim 1, wherein the image correction unit is configured to combine said digital signal with said complex image correction factor by:

multiplying said in-phase component by a value of a first function of a real portion of said complex image correction factor to form a first product;

multiplying said in-phase component by a value of a first function of an imaginary portion of said complex image correction factor to form a second product;

multiplying said quadrature component by a value of a second function of the real portion of said complex image correction factor to form a third product;

multiplying said quadrature component by a value of a second function of the imaginary portion of said complex image correction factor to form a fourth product;

accumulating said first and fourth products; and

accumulating said second and third products.

4. The receiver circuit as recited in claim 2, wherein:

said first function of said real portion of said complex image correction factor comprises $1-\alpha_r$;

said second function of said real portion of said complex image correction factor comprises $1+\alpha_r$; and

said first and said second function of said imaginary portion of said complex image correction factor each comprise $-\alpha_i$;

wherein α_r denotes said real portion of said complex image correction factor and α_i denotes said imaginary portion of said complex image correction factor.

5. The receiver circuit as recited in claim 1, wherein:

said IQ signal source is further configured to provide each of said in-phase and quadrature components of said digital signal as a corresponding serial bit stream comprising a sequence of bits, wherein each bit is indicative of a positive or negative value; and

said image correction unit is configured to multiply each of said in-phase and quadrature components with a respective portion of said complex image correction factor by complementing the sign of said respective portion of said complex image correction factor responsive to a bit of said corresponding serial bit stream indicating a negative value and retaining the sign of said respective portion of said complex image correction factor

without complementing responsive to said bit of said corresponding serial bit stream indicating a positive value.

6. The receiver circuit as recited in claim 5, wherein said IQ signal source further comprises a delta-sigma analog to digital conversion circuit.

7. The receiver circuit as recited in claim 1, wherein combining said digital signal with a complex image correction factor includes mixing said digital signal with a frequency conversion signal.

8. The receiver circuit as recited in claim 7, wherein said image correction unit is configured to combine said digital signal with said complex image correction factor including mixing said digital signal with said frequency conversion signal by:

multiplying said in-phase component by a value of a first function of said complex image correction factor and said frequency conversion signal to form a first product;

multiplying said in-phase component by a value of a second function of said complex image correction factor and said frequency conversion signal to form a second product;

multiplying said quadrature component by a value of a third function of said complex image correction factor and said frequency conversion signal to form a third product;

multiplying said quadrature component by a value of a fourth function of said complex image correction factor and said frequency conversion signal to form a fourth product;

accumulating said first and third products; and

accumulating said second and fourth products.

9. The receiver circuit as recited in claim 8, wherein:

said first function comprises $(1-\alpha_r)\cos(kn)-\alpha_i\sin(kn)$;

said second function comprises $-(1-\alpha_r)\sin(kn)-\alpha_i\cos(kn)$;

said third function comprises $(1+\alpha_r)\sin(kn)-\alpha_i\cos(kn)$; and

said fourth function comprises $(1+\alpha_r)\cos(kn)-\alpha_i\sin(kn)$;

wherein α_r denotes a real portion of said complex image correction factor, α_i denotes an imaginary portion of said complex image correction factor, k denotes a constant corresponding to said frequency conversion signal, and n denotes a time in the digital domain.

10. The receiver circuit as recited in claim 8, wherein each of said first, second, third and fourth functions of said complex image correction factor and said frequency conversion signal is a periodic function, and wherein said image correction unit is further configured to store a precomputed portion of a period of each of said first, second, third and fourth functions.

11. A method comprising:

generating a digital signal comprising in-phase (I) and quadrature (Q) components; and

combining said digital signal with a complex image correction factor in response to said generating.

12. The method as recited in claim 11, wherein combining said digital signal with said complex image correction factor comprises performing a cross-accumulation operation.

13. The method as recited in claim 11, wherein combining said digital signal with said complex image correction factor further comprises:

multiplying said in-phase component by a value of a first function of the real portion of said complex image correction factor to form a first product;

multiplying said in-phase component by a value of a first function of the imaginary portion of said complex image correction factor to form a second product;

multiplying said quadrature component by a value of a second function of the real portion of said complex image correction factor to form a third product;

multiplying said quadrature component by a value of a second function of the imaginary portion of said complex image correction factor to form a fourth product;

accumulating said first and fourth products; and

accumulating said second and third products.

14. The method as recited in claim 13, wherein:

said first function of said real portion of said complex image correction factor comprises $1-\alpha_r$;

said second function of said real portion of said complex image correction factor comprises $1+\alpha_r$; and

said first and said second function of said imaginary portion of said complex image correction factor each comprise $-\alpha_i$;

wherein α_r denotes said real portion of said complex image correction factor and α_i denotes said imaginary portion of said complex image correction factor.

15. The method as recited in claim 11, wherein:

generating said digital signal further comprises providing each of said in-phase and quadrature components of said digital signal as a corresponding serial bit stream comprising a sequence of bits, wherein each bit is indicative of a positive or negative value; and

combining said digital signal with said complex image correction factor comprises multiplying each of said in-phase and quadrature components with a respective portion of said complex image correction factor by complementing the sign of said respective portion of said complex image correction factor responsive to a bit of said corresponding serial bit stream indicating a negative value and retaining the sign of said respective portion of said complex image correction factor without complementing responsive to said bit of said corresponding serial bit stream indicating a positive value.

16. The method as recited in claim 15, wherein said generating is performed by a delta-sigma analog to digital conversion circuit.

17. The method as recited in claim 11, wherein combining said digital signal with a complex image correction factor includes mixing said digital signal with a frequency conversion signal.

18. The method as recited in claim 17, wherein said combining further comprises:

multiplying said in-phase component by a value of a first function of said complex image correction factor and said frequency conversion signal to form a first product;

multiplying said in-phase component by a value of a second function of said complex image correction factor and said frequency conversion signal to form a second product;

multiplying said quadrature component by a value of a third function of said complex image correction factor and said frequency conversion signal to form a third product;

multiplying said quadrature component by a value of a fourth function of said complex image correction factor and said frequency conversion signal to form a fourth product;

accumulating said first and third products; and

accumulating said second and fourth products.

19. The method as recited in claim 18, wherein:

said first function comprises $(1-\alpha_r)\cos(kn)-\alpha_i\sin(kn)$;

said second function comprises $-(1-\alpha_r)\sin(kn)-\alpha_i\cos(kn)$;

said third function comprises $(1+\alpha_r)\sin(kn)-\alpha_i\cos(kn)$; and

said fourth function comprises $(1+\alpha_r)\cos(kn)-\alpha_i\sin(kn)$;

wherein α_r denotes a real portion of said complex image correction factor, α_i denotes an imaginary portion of said complex image correction factor, k denotes a constant corresponding to said frequency conversion signal, and n denotes a time in the digital domain.

20. The method as recited in claim 18, wherein each of said first, second, third and fourth functions of said complex image correction factor and said frequency conversion signal is a periodic function, and wherein the method further comprises storing a precomputed portion of a period of each of said first, second, third and fourth functions.

21. A receiver circuit comprising:

an IQ mixer configured to provide a signal comprising in-phase (I) and quadrature (Q) components;

an analog-to-digital converter coupled to said IQ mixer and configured to convert said signal to a digital signal; and

an image correction unit coupled to said analog-to-digital converter and configured to combine said digital signal with a complex image correction factor.

22. A computer-accessible medium comprising program instructions, wherein the program instructions are executable by a processor to:

receive a digital signal comprising in-phase (I) and quadrature (Q) components; and

combine said digital signal with a complex image correction factor.

23. The computer-accessible medium as recited in claim 22, wherein said processor is a digital signal processor (DSP).